Riboproteins P0, P1, and P2

dsDNA

Nucleosome

Ku

Centromere A

Centromere B

Scl-70

Pm-Scl

RNA-Polymerases 1, 2, and 3

Th

Jo-1

Mi-2

PL7

PL12

SRP

A1 Cancel

IN THE CLAIMS:

Cancel claim 11 and amend claims 1, 2, 3, 7, and 8 to read as shown in the following clean versions. These claims are reproduced in Appendix B hereto with markings to show the changes made by this amendment.

SUB B1

A2

1. (amended) A method for the identification of a systemic autoimmune disease in a test subject suspected of suffering from an otherwise unidentified systemic autoimmune disease selected from the group consisting of systemic lupus erythmatosus, scleroderma, Sjögren's syndrome, polymyositis, dermatomyositis, CREST, and mixed connective tissue disease, said method comprising:

(a) analyzing a single biological sample from said test subject for the presence and amounts of a plurality of autoantibodies to produce a test data set;

(b) comparing said test data set to a library of reference data sets, each reference data set obtained from a biological sample of a reference subject known to have a systemic autoimmune disease of known identity; and

(c) applying pattern recognition means selected from the group consisting of k-nearest neighbor analysis, multi-linear regression analysis, Bayesian probabilistic reasoning, and principal component analysis to produce a statistically derived decision indicating which systemic autoimmune disease said test subject is suffering from.

2. (amended) A method in accordance with claim **1** in which said test subject is suffering from two otherwise unidentified systemic autoimmune diseases, and step (c) comprises applying pattern recognition means to produce a statistically derived decision indicating which two systemic autoimmune diseases said test subject is suffering from.

3. (amended) A method in accordance with claim **1** in which said pattern recognition means is a member selected from the group consisting of k-nearest neighbor analysis, multi-linear regression analysis, and Bayesian probabilistic reasoning.

7. (amended) A method in accordance with claim **1** in which said plurality of autoantibodies comprises antibodies to at least fifteen of the following antigens:

SSA 60,
SSA 52,
SSB 48,
Sm BB',
Sm D1,
RNP 68,
RNP A,
RNP C,

Fibrillarin,
Riboproteins P0, P1, and P2,
dsDNA,
Nucleosome,
Ku,
Centromere A,
Centromere B,
Scl-70,
Pm-Scl,
RNA-Polymerases 1, 2, and 3,
Th,
Jo-1,
Mi-2,
PL7,
PL12, and
SRP.

8. (amended) A method in accordance with claim **1** in which said plurality of autoantibodies comprises antibodies to each of the following antigens:

SSA 60,
SSA 52,
SSB 48,
Sm BB',
Sm D1,
RNP 68,
RNP A,
RNP C,
Fibrillarin,
Riboproteins P0, P1, and P2,

A3